UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF

5HR-11

Ron Swenson, Supervisor
Site Response Section
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

Site: WATKINS, INC.

Location: WINONA, MINNESOTA

Identification No. MND006158703

Date: 5-30-90

Dear Mr. Swenson:

Attached is a copy of the site inspection work plan which has been prepared for the site listed above. This document is considered to be draft and subject to changes and modifications based on actual conditions which may be encountered at the site.

Because this is considered to be a draft document, it should be for official use only and should not be distributed outside of your agency without prior notification and approval of the U.S. Environmental Protection Agency.

The document also contains a preliminary estimate of the Hazard Ranking System (HRS) score for the site and a project score based on specific assumptions as addressed in the work plan. This information is considered predecisional. Therefore, it should not be released. Your field and district staff especially should be made avare of the predecisional nature of this score, the legal implications of releasing it relative to the National Priorities List (NPL) candidacy process, and therefore the need not to release any score. If you have any questions concerning release of this information, please contact Ms. Jeanne Griffin, of my staff, at (312) 886-3007.

If you have any comments on the work plan itself, please contact the appropriate FIT State Coordinator at (312) 633-9415 and Mr. Charles Castle, of my staff, at (312) 886-5892, within ten working days. If we do not receive any comments written or verbal from you, then you will be contacted at the end of the ten day comment period.

Please note that inspections are carried out under CERCLA to determine if a site will make the NPL. Thus, extra sampling or other activities that serve only a State purpose should not be requested. We will welcome suggestions based on the knowledge of you and your staff that will make for a better site inspection for NPL candidacy purpose.

Please talk with Mr. Castle as early within the comment period as possible in order that your suggestions can be evaluated and modifications made.

Sincerely yours,

Thomas Geishecker

Thomas Geishecker, Chief
Technical Support Section

Enclosures

1427:4

SCREENING SITE INSPECTION WORK PLAN
FOR
WATKINS, INC.
WINONA, MINNESOTA
U.S. EPA ID: MND006158703
SS ID: N/A
TDD: F05-8706-167
PAN: FMN0192GA

MAY 30, 1990

Elements of this Screening Site Inspection Work Plan are considered confidential and pre-decisional in nature. Material and information contained within this report may not be released without the approval of the United States Environmental Protection Agency Region V Pre-Remedial Unit.

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

INSPECTION WORK PLAN

THIS DOCUMENT IS CONFIDENTIAL. Due to the predecisional nature of this document, this document and its attachments are not to be released without prior approval of the United States Environmental Protection Agency (U.S. EPA).

This site inspection work plan (WP) has been prepared by Ecology and Environment, Inc., or its subcontractor, C. C. Johnson and Malhotra, P.C., under the field investigation team (FIT) contract with U.S. EPA (No. 68-01-7347).

The objectives of this WP are to:

- Prepare a preliminary Hazard Ranking System (HRS) score using HRS 1 (40 CFR 300, July 16, 1982) criteria based on existing file information (Part C of WP);
- Prepare projected HRS 1 scores based on experience and professional judgement (Part C of WP);
- Identify HRS 1 score data gaps (Part E of WP); and
- Propose site inspection activities to satisfy the HRS 1 score data gaps; technical approach and estimated LOE are provided (Parts E and I, respectively).

Unless otherwise stated, QA/QC protocol for site inspection activities is documented in the Quality Assurance Project Plan Region V FIT Conducted Site Inspections - May 1, 1987.

A. GENERAL INFORMATION

CERCLIS SITE NAME: WATKINS, INC.
ALSO KNOWN AS: —
FORMERLY KNOWN AS: —
ADDRESS: 150 LIBERTY STREET
CITY: WINONA
STATE: MINNESOTA
COUNTY: WINONA
ZIP CODE: 55987
U.S. EPA ID: MND006158703
SSID: N/A
TDD: F05-8706-167
PAN: FMN0192GA

FIT USE ONLY

WORK PLAN TYPE: ✓ SCREENING SITE INSPECTION (SSI) WORK PLAN

___ OTHER: ___

PREPARED BY: DAN SULLIVAN (FIT) DATE: 5-15-90

REVIEWED BY: ___ (FIT) DATE: ___

APPROVED BY: Regina Bayer (FIT) DATE: 5/21/90

U.S. EPA USE ONLY

REVIEWED BY: [signature] (U.S. EPA) DATE: 6-8-90

___ WORK PLAN APPROVED. Recommend issuance of TDD to implement the Work Plan.

✓ WORK PLAN APPROVED. No Further Remedial Action Planned (NFRAP).

___ WORK PLAN REJECTED.

COMMENTS: In agreement w Mike Connolly, MPCA tel conv., 6-8-90

SI054(05/15/89)

B. SITE INFORMATION

This section of the WP presents current and historic information pertaining to the site, including: site operations, storage/disposal methods, site property area, site status, owners and operators, permit information, and response/enforcement activities. A site location map is shown on Figure 1, located in Section 2.

1. Site Operations (past and present; check all that apply):

✓	Above ground storage	____	Mining site
____	Below ground storage	____	Open dump
____	Chemical manufacturer	____	Ore processor
____	Drum recycler	____	Physical/chemical treatment
____	Electroplater	____	Recycler/reclaimer
____	Foundry	____	Surface impoundment
____	Incinerator	____	Underground injection
____	Landfarm	____	Well field
____	Landfill	____	Wood preserver
____	Midnight dump	✓	Other: MANUFACTURER OF FOOD PRODUCTS, CLEANING PRODUCTS, HEALTH AND BEAUTY PRODUCTS, INSECTICIDES.

References: 3 , ____ , ____ , ____ , ____

2. Storage/Disposal Methods (past and present; check all that apply):

		Waste Quantity (amount/units of measure)
____	Drums, above ground	____
____	Landfarm	____
____	Landfill	____
____	Open dump	____
____	Piles	____
____	Surface impoundment	____
✓	Tank, above ground	UNKNOWN
____	Tank, below ground	____
____	Other: ____	____
	____	____

References: ____ , ____ , ____ , ____ , ____

3. Site Property Area: ~2-3 (acres)

References: 5 , ____ , ____ , ____ , ____

4. Site History/Description and Unusual Features: (see following page.)

References: 3 , ____ , ____ , ____ , ____

WATKINS, INCORPORATED, LOCATED IN WINONA, MINNESOTA, MANUFACTURES FOOD PRODUCTS, CLEANING PRODUCTS, HEALTH AND BEAUTY PRODUCTS, PLANT PRODUCTS, INSECTICIDES, AND GIFT COLLECTIONS. THERE ARE TWO TYPES OF WASTE FUEL OIL: THAT USED TO RINSE NONLEADED PAINT BRUSHES AND THAT MIXED WITH EMULSION DEGREASER AND DRY CLEANING GRADE PERCHLOROETHYLENE. WASTE FUEL OIL USED TO BE USED FOR WEED CONTROL ALONG THE RAILROAD RIGHT OF WAY.

IN FEBRUARY 1983, APPROXIMATELY 200 GALLONS OF FUEL OIL WERE RELEASED FROM AN ON-SITE STORAGE TANK. APPROXIMATELY 150 GALLONS OF OIL WERE RECOVERED AND BARRELLED. THREE TO FOUR INCHES OF SAND WERE SPREAD OVER THE SPILL AREA AND LATER CLEANED UP AND THINSPREAD ON THE PROPERTY.

5. Site Status: ✓ Active _____ Inactive

References: 3 , _____ , _____ , _____ , _____

6. Owner/Operator History

Current Owner

Name: JACOBS MANAGEMENT CORP.
Address: 1215 NE MARSHALL
City, State, Zip Code: MINNEAPOLIS, MN 55415
Years of Ownership: UNKNOWN

Current Operator

Name: WATKINS INC.
Address 150 LIBERTY ST.
City, State, Zip Code: WINONA, MN 55987
Type of Operation: MFG.
Years of Operation: UNKNOWN

Previous owners
(list most recent first)

Name: UNKNOWN
Address:
City, State, Zip Code:
Years of Ownership:

Name:
Address:
City, State, Zip Code:
Years of Ownership:

Previous operators
(list most recent first)

Name: UNKNOWN
Address
City, State, Zip Code:
Type of Operation:
Years of Operation:

Name:
Address
City, State, Zip Code:
Type of Operation:
Years of Operation:

References: 3 , _____ , _____ , _____ , _____

7. Permit Information

	Effective Date	Expiration Date
___NPDES		
___UIC		
___AIR		
___RCRA, ___PART A ___PART B		
___SPCC PLAN		
___STATE (specify):		
___LOCAL (specify):		
___OTHER (specify):		
___NONE		

UNKNOWN

References: _____ , _____ , _____ , _____ , _____

8. Response Activities (previous and current site remediation; check all that apply):

____	Water supply closed	____	Cutoff trenches/sump
____	Temporary water supply provided	____	Subsurface cutoff wall
____	Permanent water supply provided	____	Barrier wall constructed
____	Spilled material removed	____	Capping/covering
____	Contaminated soil removed	____	Bulk tankage repaired
✓	Waste repackaged	____	Grout curtain constructed
____	Waste disposed elsevhere	____	Bottom sealed
____	On-site burial	____	Gas control
____	In situ treatment	____	Fire control
____	Encapsulation	____	Leachate treatment
____	Emergency waste treatment	____	Area evacuated
____	Cutoff walls	____	Access to site restricted
____	Emergency diking/surface water diversion	____	Population relocated

Other remedial and enforcement activities: THREE TO FOUR INCHES OF SAND WERE SPREAD OVER AN OIL SPILL AREA AND LATER CLEANED UP AND THINSPREAD ON THE PROPERTY.

References: 3 , _____ , _____ , _____ , _____

9. Documented and Alleged Target Compounds

Documented and alleged target compounds are compiled in Table 1. The documented target compounds are supported by analytical data from previous sampling projects. The alleged target compounds are based on the history of site operations and profession judgement. Documented and alleged target compound locations are shown on Figure 2, located in Section 2.

LOCATON	CMPND STATUS		MATRIX (✓)							DOCUMENTED COMPOUND AND CONCENTRATION OR ALLEGED COMPOUND AND RATIONAL	REFERENCE
	DOCU	ALLEG	SOIL	SED	GW	SW	AIR	WSTE	OTHR		
		✓	✓							TETRACHLOROETHENE	3

Table 1
DOCUMENTED/ALLEGED TARGET COMPOUND LIST

C. PRELIMINARY/PROJECTED HRS SCORES

The purpose of this section is to:

- Prepare a preliminary HRS 1 score based on existing file information; and
- Prepare projected HRS 1 scores based on experience and professional judgement.

PRELIMINARY HRS SCORE (this score is based on existing file information that was obtained prior to the screening site inspection):

S_M = 0 S_{FE} = 4.38 S_{DC} = 0

PROJECTED HRS SCORE FOR A SCREENING SITE INSPECTION (this score is based on the expected acquisition of information from the screening site inspection):

S_M = 25.66 S_{FE} = 17.50 S_{DC} = 50.00

PROJECTED HRS SCORE FOR A LISTING SITE INSPECTION (this score is based on the expected acquisition of information from the Listing Site Inspection):

S_M = 32.18 S_{FE} = 17.50 S_{DC} = 50.00

HRS 1 score worksheets are located in Section 3.

D. WORK SUMMARY

Based on the preliminary and projected HRS scores, a site inspection will be performed.

The objectives of the site inspection are to:

- o Provide information to satisfy HRS data gaps;
- o Develop the information base needed to permit U.S. EPA to evaluate the need for future site activities; including: immediate removal measures, additional investigation, or no further action; and
- o Characterize hazardous substances, pollutant dispersal pathways, types of receptors, facility management practices, and potentially responsible parties.

Specific tasks to be conducted during the site inspection are (check all that apply):

- ✓ Interview site owner(s)/representative(s)
- ✓ Take photographs of site and surrounding areas
- ✓ Screen site with safety instrumentation (i.e.,HNU, OVA, O_2 meter, explosimeter, radiation detector, cyanide detector)
- ✓ Collect environmental samples
- ✓ Assess the need for Immediate Removal Actions
- ____ FASP*
- ____ Soil gas monitoring*
- ____ Well point installations*
- ____ Geophysics*: _____ (Specify)
- ____ OTHER*: _____

* Rationale for these activities and their impact on HRS data gaps:

E. PROPOSED SAMPLE PLAN (Continued)

The HRS data gaps are identified in this section, and a proposed sample plan is developed based on the type of information required.

1 A) HRS data gap(s): WASTE CHARACTERISTICS

B) Sampling proposed to satisfy HRS data gap(s):

✓ Soil ___ Sediment ___ GW ___ SW ___ Air ___ Waste

C) Sampling procedures (number and types of samples; equipment; methodology): COLLECT FOUR SOIL SAMPLES OUTSIDE THE PLANT BUILDING(S). DEPTHS OF SAMPLES COLLECTED BY FIT WILL BE DETERMINED ON-SITE. ONE BACKGROUND SOIL SAMPLE WILL ALSO BE COLLECTED. COLLECT SAMPLES, COMPLETE PAPERWORK, PACKAGE SAMPLES, AND SHIP TO LAB MAINTAINING THE CHAIN-OF-CUSTODY AT ALL TIMES.

A table of proposed sample descriptions is presented in Table 2, Section 1. A proposed sample location map is presented on Figure 3, in Section 2.

2 A) HRS data gap(s): GROUNDWATER ROUTE.

B) Sampling proposed to satisfy HRS data gap(s):

___ Soil ___ Sediment ___ GW ___ SW ___ Air ___ Waste

C) Sampling procedures (number and types of samples; equipment; methodology): NO SAMPLES WILL BE COLLECTED AT THIS TIME.

A table of proposed sample descriptions is presented in Table 2, Section 1. A proposed sample location map is presented in Figure 3, in Section 2.

Note: Sample locations and/or the number of samples may be changed or eliminated at the discretion of the site team leader in response to actual site conditions during the course of the inspection.

E. PROPOSED SAMPLE PLAN

The HRS data gaps are identified in this section, and a proposed sample plan is developed based on the type of information required.

1. A) HRS data gap(s): SURFACE WATER ROUTE

B) Sampling proposed to satisfy HRS data gap(s):

____Soil ____Sediment ____GW ____SW ____Air ____Vaste

C) Sampling procedures (number and types of samples; equipment; methodology): NO SAMPLES WILL BE COLLECTED AT THIS TIME. POTENTIAL MIGRATION PATHWAYS WILL BE ASSESSED DURING THE SSI.

A table of proposed sample descriptions is presented in Table 2, Section 1. A proposed sample location map is presented on Figure 3 in Section 2.

2. A) HRS data gap(s): AIR ROUTE

B) Sampling proposed to satisfy HRS data gap(s):
____Soil ____Sediment ____GW ____SW ____Air ____Vaste

C) Sampling procedures (number and types of samples; equipment; methodology): NO SAMPLES WILL BE COLLECTED AT THIS TIME.

A table of proposed sample descriptions is presented in Table 2, Section 1. A proposed sample location map is presented in Figure 3, in Section 2.

Note: Sample locations and/or the number of samples may be changed or eliminated at the discretion of the site team leader in response to actual site conditions during the course of the inspection.

LOCATION	MATRIX (✓) SOIL	SED	GW	SW	AIR	WSTE	OTHR	RATIONALE FOR DETERMINING SAMPLE LOCATION	PARAMETERS[1] A/B/N	Pest/ PCB	VOA	METAL	CN^-	OTHER
S1	✓							WASTE CHARACTERISTICS	✓	✓	✓	✓	✓	
S2	✓							↓	✓	✓	✓	✓	✓	
S3	✓								✓	✓	✓	✓	✓	
S4	✓								✓	✓	✓	✓	✓	
S5	✓							BACKGROUND SAMPLE	✓	✓	✓	✓	✓	
TOTALS	5								5	5	5	5	5	

[1]Target Compound List Attached

Table 2
PROPOSED SAMPLE DESCRIPTIONS
(INCLUDING ALL LABORATORY BLANKS AND DUPLICATES)

F. COMMENTS

THE SURFACE WATER MIGRATION PATHWAY WILL BE EVALUATED THE TIME OF THE SSI.

G. HEALTH AND SAFETY

Proposed E & E Health and Safety protocol to be followed during site inspection.

1. Anticipated level of protection: ____ A ____ B ____ C X D

2. Level of protection modifications: LEVEL D WITH POSSIBLE UPGRADE TO LEVEL C.

3. Work limitations (time of day, etc.): WORK DAYLIGHT HOURS ONLY, MAINTAIN BUDDY SYSTEM AT ALL TIMES, MONITOR TEAM MEMBERS FOR HEAT / COLD STRESS.

H. TYPE OF DELIVERABLE

Proposed report format to be submitted to U.S. EPA.

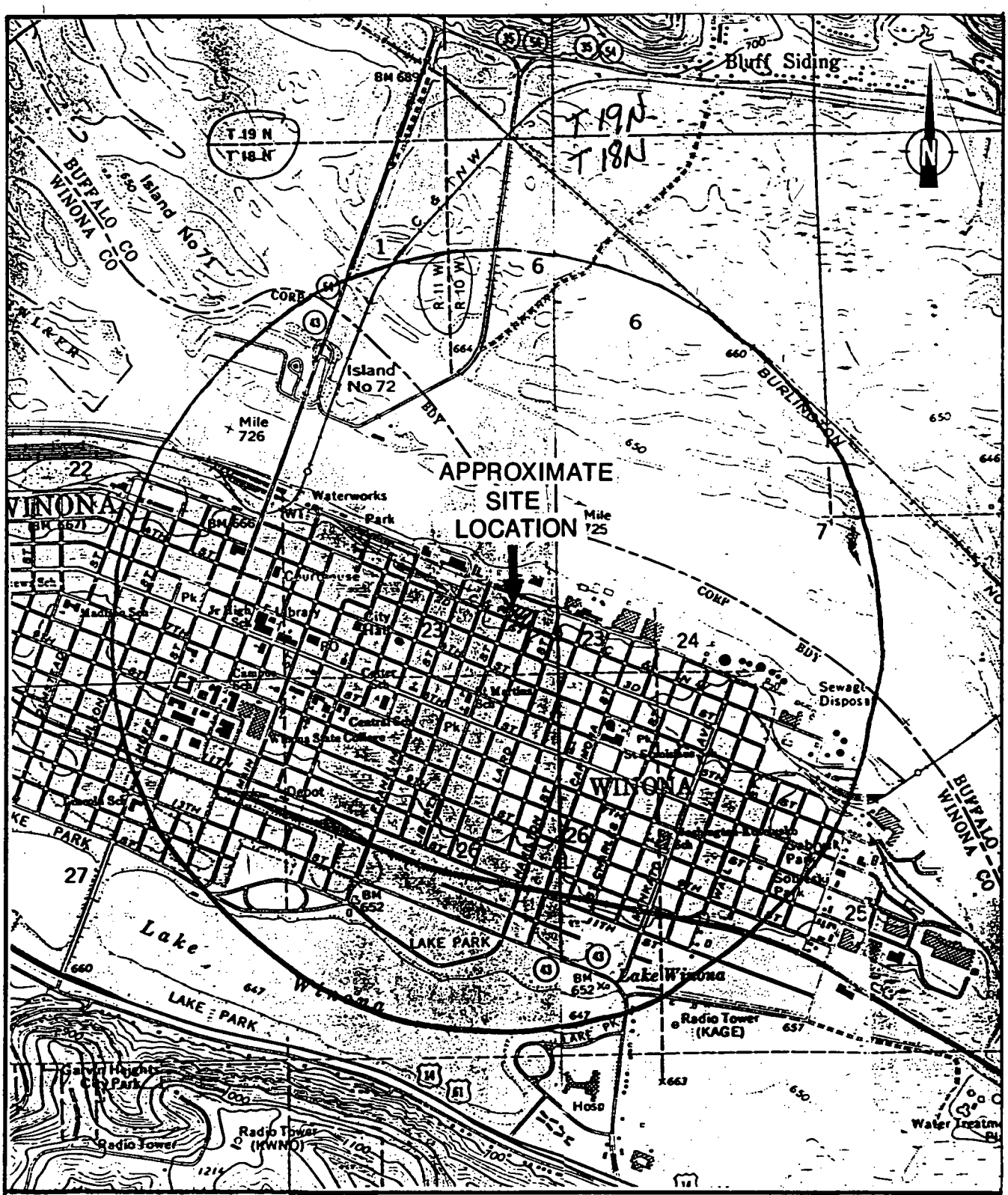
1. ✓ SSI Report including U.S. EPA 2070-13 Form
2. ___ Letter Report
3. ___ Other_____

	SUBTASK																				
SUBTASK CODE	General Non-Specific	File Search/Review	Work Plan	Safety Plan	QAPP	Mobilization/Demobilization	Travel	Non-Sampling Field Work	Sample Management	Field Sampling	Screening/Analytical	Subcontract	Meteorologic/Air Sampling Studies	Geophysical Work	Hydrogeological Work	Data Processing/Modelling	Data Validation	Draft Final Deliverable	Internal QA Review	Final Deliverable	Respond To Comments	TOTAL
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
TEAM LEADER	10	12		8		4	14	3		5								60		20	8	144
SAFETY OFFICER						4	14	3		5												26
SAMPLER							14		8													22
TEAM MEMBER							14	3		5												22
~~TEAM MEMBER~~																						
ADMIN/PUBLICATIONS	4																		40			44
SAMPLE COORD.									4													4
QA				8													5		25			38
TOTALS FOR PROJECT	14	12		16		8	56	9	12	15							5	60	65	20	8	300

1. ESTIMATED LOE HOURS

SUMMARY OF PROJECTED HOURS NEEDED TO IMPLEMENT SITE INSPECTION AND COMPLETE SITE INSPECTION REPORT.

SITE MAPS



QUADRANGLE LOCATION

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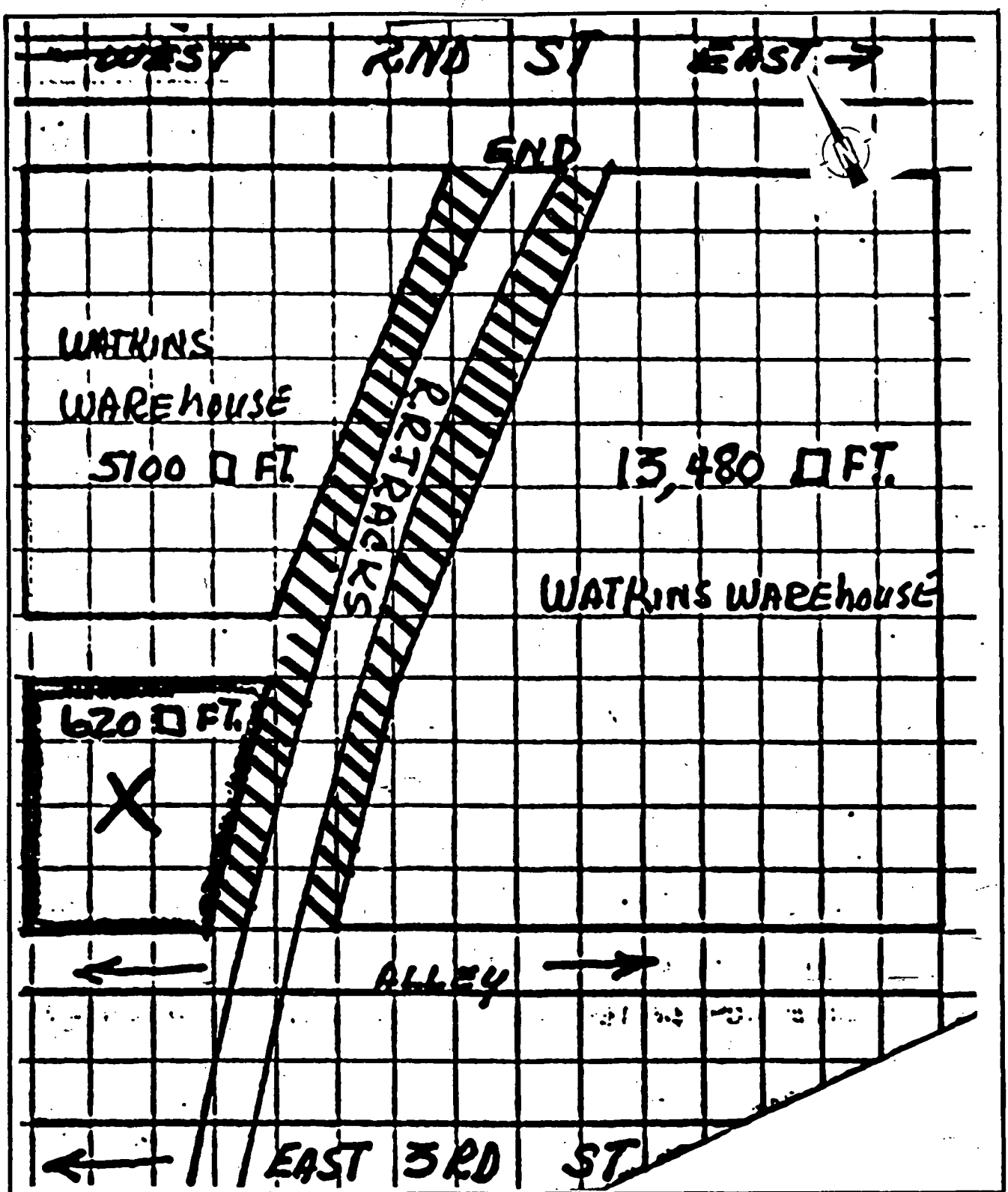
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

TITLE: SITE LOCATION MAP	FIGURE #: 1
SITE: WATKINS	SCALE: 1:24000
CITY: WINONA STATE: MINNESOTA	P.A.N.: FMN0192GA
SOURCE: USGS WINONA EAST AND WEST QUADS	DATE: 1972
	REVISED:



LEGEND

ALLEGED AREA OF CONTAMINATION

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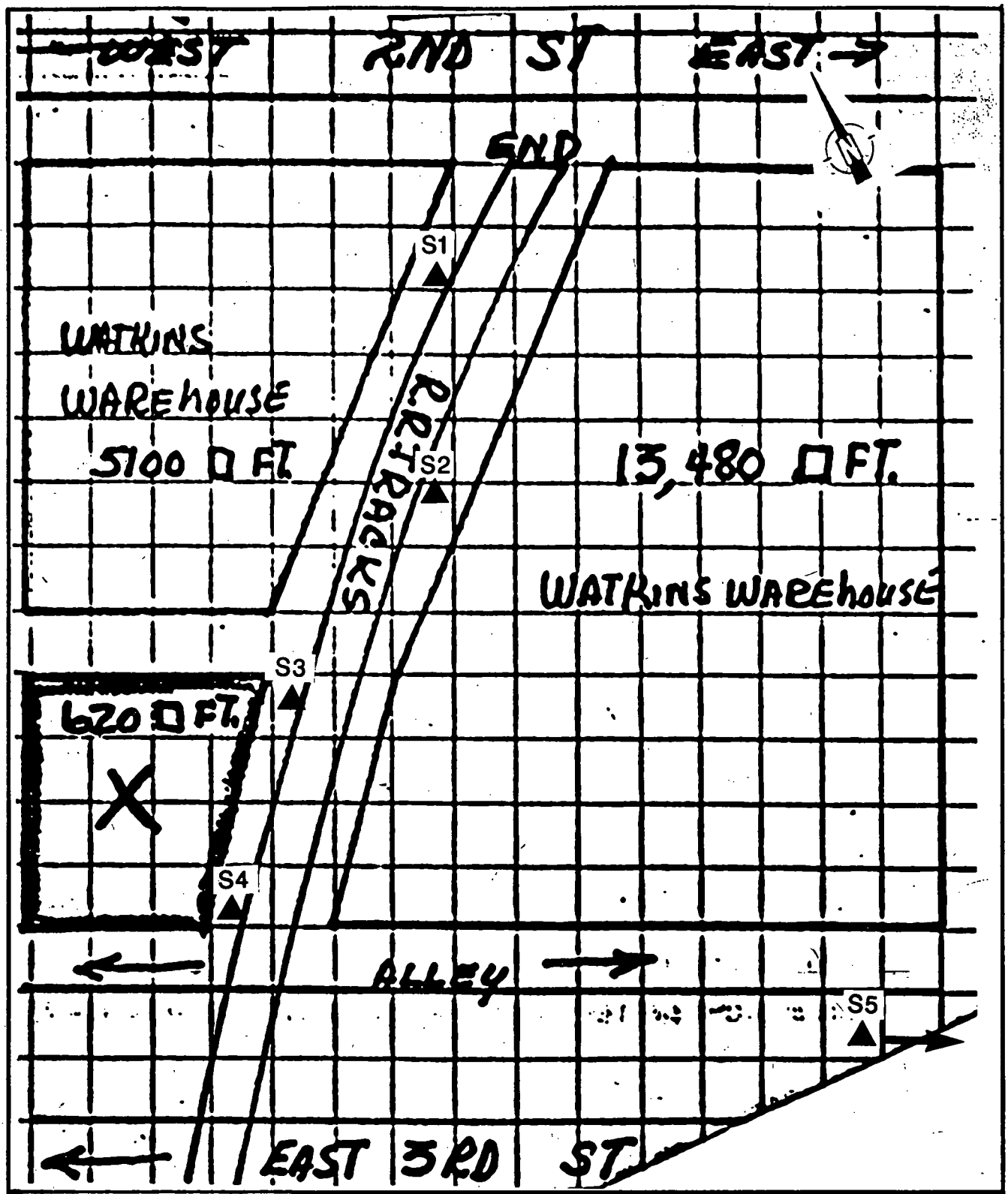
TITLE: DOCUMENTED/ALLEGED TARGET COMPOUND MAP	FIGURE #: 2
SITE: WATKINS	SCALE: NOT TO SCALE
CITY: WINONA STATE: MINNESOTA	P.A.N.: FMN0192GA
SOURCE: WATKINS INCORPORATED	DATE: 1981
	REVISED:



LEGEND

▲ SOIL SAMPLE

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TITLE: PROPOSED SAMPLE LOCATION MAP	FIGURE #: 3
SITE: WATKINS	SCALE: NOT TO SCALE
CITY: WINONA STATE: MINNESOTA	P.A.N.: FMN0192GA
SOURCE: WATKINS INCORPORATED	DATE: 1981
	REVISED:

Hazard Ranking System 1: Score Worksheets:

PRELIMINARY AND PROJECTED HAZARD RANKING SYSTEM SCORE WORKSHEETS

Site Name: WATKINS, INC. (Cerclis Name)

(AKA)

Address: 150 LIBERTY STREET

City/County/State/Zip WINONA / WINONA / MINNESOTA / 55987

Cerclis ID # MND006158703 SSID N/A

Prepared by DAN SULLIVAN E&E Date 5-15-90

Reviewed by Regina Bayer E&E Date 5/21/90

TDD: F05-8706-167 PAN FMN0192GA

Type of Document

PA	
PA Reassessment	
WP-SSI	✓
WP-LSI	

PRELIMINARY HRS SCORE

S_M= 0 S_{FE}= 4.38 S_{DC}= 0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

S_M= 25.66 S_{FE}= 17.50 S_{DC}= 50.00

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

S_M= 32.18 S_{FE}= 17.50 S_{DC}= 50.00

PRELIMINARY HRS SCORE

(THIS SCORE IS BASED ON EXISTING FILE INFORMATION THAT WAS OBTAINED PRIOR TO THE SCREENING SITE INSPECTION)

	S	S^2
Groundwater Route Score (S_{gw})	0	0
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_A)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73 = S_M$		0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE SCREENING SITE INSPECTION)

	S	S^2
Groundwater Route Score (S_{gw})	44.21	1954.52
Surface Water Route Score (S_{sw})	4.03	16.24
Air Route Score (S_A)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		1970.76
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		44.39
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73 = S_M$		25.66

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE LISTING SITE INSPECTION)

	S	S^2
Groundwater Route Score (S_{gw})	55.26	3053.67
Surface Water Route Score (S_{sw})	6.71	45.02
Air Route Score (S_A)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		3098.69
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		55.67
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73 = S_M$		32.18

GROUNDWATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) . 45	x1	0		
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: QUAT. WATER TABLE AQUIFER	1
Depth to Aquifer of concern	0 1 2 (3)	x2	6	~19 ft.	1
Net Precipitation	0 (1) 2 3	x1	1	Precip 29.23" Evap 31.50"	2
Permeability of the Unsaturated Zone	0 1 (2) 3	x1	2	10^{-4} cm/sec SAND + GRAVEL	1
Physical State	0 1 2 (3)	x1	3	LIQUID	3
	Total Route Char. Score		12		
3 Containment	0 1 2 (3)	x1	3	WASTE OIL USED FOR WEED CONTROL	3
4 Waste Characteristics					
Persistence / Toxicity (0: 0 0 0 0; 1: 3 6 9 12; 2: 6 9 12 15; 3: 9 12 15 18)	(0)	x1	0	UNKNOWN	-
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x1	0	UNKNOWN	-
	Total Waste Char. Score		0		
5 Targets					
Groundwater Use	0 1 2 (3)	x3	9	DRINKING	1, 4
Distance to Nearest Well / Population Served (0: 0 0 0 0 0; 1: 0 4 6 8 10; 2: 0 8 12 16 20; 3: 0 12 18 24 30; 4: 0 16 24 32 35; (5): 0 20 30 (35) 40)		x1	35	< ½ MILE > 25000	5 4
	Total Targets Score		44		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 0		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0		
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: QUAT. WATER TABLE AQUIFER	1
Depth to Aquifer of concern	0 1 2 (3)	x2	6	~19 ft.	1
Net Precipitation	0 (1) 2 3	x1	1	Precip 29.23" Evap 31.50"	2
Permeability of the Unsaturated Zone	0 1 (2) 3	x1	2	10^{-4} cm/sec SAND + GRAVEL	1
Physical State	0 1 2 (3)	x1	3	LIQUID	3
	Total Route Char. Score		12		
3 Containment	0 1 2 (3)	x1	3	WASTE OIL USED FOR WEED CONTROL	3
4 Waste Characteristics					
Persistence	0 1 2 3				
Toxicity 0	0 0 0 0				
Toxicity 1	3 6 9 12				
Toxicity 2	6 9 12 15				
Toxicity 3	9 12 (15) 18	x1	15	TETRACHLOROETHENE	3
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	-
	Total Waste Char. Score		16		
5 Targets					
Groundwater Use	0 1 2 (3)	x3	9	DRINKING	1,4
Distance to Nearest Well	0 1 2 (3) 4				
0	0 0 0 0 0				
1	0 4 6 8 10				
2	0 8 12 16 20			< 1/2 MILE	5
Population Served 3	0 12 18 24 30				
4	0 16 24 32 35				
(5)	0 20 30 (35) 40	x1	35	> 25000	4
	Total Targets Score		44		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			25344		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 44.21		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected aquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	0 (45)	x1	45		
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description:	
Depth to Aquifer of concern	0 1 2 3	x2		ft.	
Net Precipitation	0 1 2 3	x1		Precip Evap	
Permeability of the Unsaturated Zone	0 1 2 3	x1		cm/sec	
Physical State	0 1 2 3	x1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x1			
4 Waste Characteristics					
Persistence / Toxicity (0: 0 0 0 0; 1: 3 6 9 12; 2: 6 9 12 15; 3: 9 12 (15) 18)		x1	15	TETRACHLOROETHENE	3
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	
	Total Waste Char. Score		16		
5 Targets					
Groundwater Use	0 1 2 (3)	x3	9	DRINKING	1,4
Distance to Nearest Well / Population Served (0: 0 0 0 0 0; 1: 0 4 6 8 10; 2: 0 8 12 16 20; 3: 0 12 18 24 30; 4: 0 16 24 32 35; (5): 0 20 30 (35) 40)		x1	35	< 1/2 MILE > 25 000	5 4
	Total Targets Score		44		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			31680		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 55.26		

SURFACE WATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0		
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Facil < 3 %	5
Intervening Terrain / Facility Slope	(0) 0 0 0 3 0 1 1 2 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x1	0	Interv < 3 %	5
1-yr. 24 hr. Rainfall	0 1 (2) 3	x1	2	~2.5 in.	2
Distance to Nearest Surface Water	0 1 (2) 3	x2	4	< 1/4 MILE	5
Physical State	0 1 2 (3)	x1	3	LIQUID	3
Total Route Char. Score			9		
3 Containment	0 1 2 3	x1			3
4 Waste Characteristics					
Persistence / Toxicity	(0) 0 1 2 3 0 (0) 0 0 0 1 3 6 9 12 2 6 9 12 15 3 9 12 15 18	x1	0	UNKNOWN	
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x1	0	UNKNOWN	
Total Waste Char. Score			0		
5 Targets					
Surface Water Use	0 1 (2) 3	x3	6	RECREATION	6
Dist. to Sensitive Environment	(0) 1 2 3	x2	0	N/A	
Population Served / Distance to Water Intake Downstream	(0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 0 20 30 35 40	x1	0	N/A	
Total Targets Score			6		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0		
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	0		

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0		
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Facil < 3 %	5
Intervening Terrain / Facility Slope	(0) 0 0 0 3 0 1 1 2 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x1	0	Interv < 3 %	5
1-yr. 24 hr Rainfall	0 1 (2) 3	x1	2	~2.5 in.	~2
Distance to Nearest Surface Water	0 1 (2) 3	x2	4	< 1/4 MILE	5
Physical State	0 1 2 (3)	x1	3	LIQUID	3
Total Route Char. Score			9		
3 Containment	0 1 2 (3)	x1	3		3
4 Waste Characteristics					
Persistence / Toxicity	0 1 2 3 0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 3: 9 12 (15) 18	x1	15	TETRACHLOROETHENE	3
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	
Total Waste Char. Score			16		
5 Targets					
Surface Water Use	0 1 (2) 3	x3	6	RECREATION	6
Dist. to Sensitive Environment	(0) 1 2 3	x2	0		
Population Served / Distance to Water Intake Downstream	(0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 0 20 30 35 40	x1	0		
Total Targets Score			6		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			2592		
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 4.03		

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected aquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	0 (45)	x1	45		
If Observed Release scores <45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Facil %	
Intervening Terrain / Facility Slope	0 0 0 0 3 0 1 1 2 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x1		Interv %	
1-yr. 24 hr. Rainfall	0 1 2 3	x1		in.	
Distance to Nearest Surface Water	0 1 2 3	x2			
Physical State	0 1 2 3	x1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x1			
4 Waste Characteristics					
Persistence / Toxicity (0: 0 0 0 0; 1: 3 6 9 12; 2: 6 9 12 15; 3: 9 12 (15) 18)		x1	15	TETRACHLOROETHENE	3
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	
	Total Waste Char. Score		16		
5 Targets					
Surface Water Use	0 1 (2) 3	x3	6	RECREATION	6
Dist. to Sensitive Environment	(0) 1 2 3	x2	0		
Population Served / Distance to Water Intake Downstream (0: 0 0 0 0 0; 4: 0 4 6 8 10; 8: 0 8 12 16 20; 12: 0 12 18 24 30; 16: 0 16 24 32 35; 20: 0 20 30 35 40)		x1	0		
	Total Targets Score		6		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			4320		
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 6.71		

AIR ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0		
If line 1 is 0, the S_a=0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets	Dist to Population				
Population within 4-mile Radius	Pop 0 0 0 0 / 9 12 15 18 / 12 15 18 21 / 15 18 21 24 / 18 21 24 27 / 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0 *		

* NO AIR DATA AVAILABLE

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0		
If line 1 is 0, the S_a=0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
Total Waste Char. Score					
3 Targets	Dist to Population				
Population within 4-mile Radius	Pop. 0 0 0 0 / 9 12 15 18 / 12 15 18 21 / 15 18 21 24 / 18 21 24 27 / 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
Total Targets Score					
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0 *		

* NO AIR MONITORING WILL BE DONE AT THIS TIME.

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected aquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	(0)		
If line 1 is 0, the S_a=0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Population within 4-mile Radius	Dist to Population Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = (0)*		

* INSUFFICIENT INFORMATION TO SCORE THIS ROUTE AT THIS TIME.

FIRE AND EXPLOSION

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Containment	(1) 3	x1	1	UNKNOWN	
2 Waste Characteristics					
Direct Evidence	(0) 3	x1	0	UNKNOWN	
Ignitability	0 1 2 (3)	x1	3	WASTE OIL	7
Reactivity	(0) 1 2 3	x1	0	UNKNOWN	
Incompatability	(0) 1 2 3	x1	0	UNKNOWN	
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x1	0	UNKNOWN	
	Total Waste Char. Score		3		
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 (5)	x1	5	ON-SITE	3
Dist. to Nearest Bldg.	0 1 2 (3)	x1	3	ON-SITE	3
Dist. to Sensitive Env.	(0) 1 2 3	x1	0	N/A	
Land Use	0 1 2 (3)	x1	3	COMMERCIAL, RESIDENTIAL INDUSTRIAL < 1/4 MILE	5
Pop. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 10000	5,8
Bldgs. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 2600	5
	Total Targets Score		21		
4 Multiply 1 x 2 x 3			63		
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 4.38		

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Containment	1 (3)	x1	3		
2 Waste Characteristics					
Direct Evidence	(0) 3	x1	0	UNKNOWN	
Ignitability	0 1 2 (3)	x1	3	WASTE OIL	7
Reactivity	(0) 1 2 3	x1	0	UNKNOWN	
Incompatability	(0) 1 2 3	x1	0	UNKNOWN	
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	
	Total Waste Char. Score		4		
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 (5)	x1	5	ON-SITE	3
Dist. to Nearest Bldg.	0 1 2 (3)	x1	3	ON-SITE	3
Dist. to Sensitive Env.	(0) 1 2 3	x1	0	N/A	
Land Use	0 1 2 (3)	x1	3	COMMERCIAL, RESIDENTIAL, INDUSTRIAL < 1/4 MILE	5
Pop. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 10000	5,8
Bldgs. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 2600	5
	Total Targets Score		21		
4 Multiply 1 x 2 x 3			252		
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 17.50		

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 (3)	x1	3		
2 Waste Characteristics					
Direct Evidence	(0) 3	x1	0	UNKNOWN	
Ignitability	0 1 2 (3)	x1	3	WASTE OIL	7
Reactivity	(0) 1 2 3	x1	0	UNKNOWN	
Incompatability	(0) 1 2 3	x1	0	UNKNOWN	
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	
	Total Waste Char. Score		4		
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 (5)	x1	5	ON-SITE	3
Dist. to Nearest Bldg.	0 1 2 (3)	x1	3	ON-SITE	3
Dist. to Sensitive Env.	(0) 1 2 3	x1	0	N/A	
Land Use	0 1 2 (3)	x1	3	COMMERCIAL, RESIDENTIAL, INDUSTRIAL < 1/4 MILE	5
Pop. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 10 000	5,8
Bldgs. Within 2 miles	0 1 2 3 4 (5)	x1	5	> 2600	5
	Total Targets Score		21		
4 Multiply 1 x 2 x 3			252		
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 17.50		

DIRECT CONTACT

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	NONE	
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	(0) 1 2 3	x1	0	UNKNOWN	
3 Containment	0 (15)	x1	15	WASTE OIL USED FOR WEED CONTROL	3
4 Waste Characteristics					
Toxicity	(0) 1 2 3	x5	0	UNKNOWN	
5 Targets					
Pop. Within 1 mile	0 1 2 3 (4) 5	x4	16	~ 5873	8
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	N/A	
	Total Targets Score		16		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0		
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	0		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0		
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	ASSUME NO BARRIERS	
3 Containment	0 (15)	x1	15	WASTE OIL USED FOR WEED CONTROL	3
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	TETRACHLOROETHENE	3
5 Targets					
Pop. Within 1 mile	0 1 2 3 (4) 5	x4	16	~5873	8
Dist. to Crit. Habitat	(0) 1 2 3	x4	0		
	Total Targets Score		16		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			10800		
7 Divide line 6 by 21,600 and multiply by 100			S_{OC} = 50.00		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0		
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	ASSUME NO BARRIERS	
3 Containment	0 (15)	x1	15	WASTE OIL USED FOR WEED CONTROL	3
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	TETRACHLOROETHYLENE	3
5 Targets					
Pop. Within 1 mile	0 1 2 3 (4) 5	x4	16	~5873	8
Dist. to Crit. Habitat	(0) 1 2 3	x4	0		
	Total Targets Score		16		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			10800		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 50.00		

REFERENCES

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
1	MINNESOTA GEOLOGICAL SURVEY, WATER WELL LOGS FOR WINONA COUNTY, MINNESOTA, T. 107 N., R. 7W., SECTIONS 21-23.
2	U.S. DEPARTMENT OF COMMERCE; GOVERNMENT PRINTING OFFICE, 1963. RAINFALL FREQUENCY ATLAS, TECHNICAL PAPER # 40, WASHINGTON, D.C. PP 43 AND 68.
3	CEDARLEAF, SUSAN M., MINNESOTA POLLUTION CONTROL AGENCY SOLID AND HAZARDOUS WASTE DIVISION, POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FOR WATKINS, INC., FEBRUARY 19, 1985.
4	TROKE, CARL, OCTOBER 5, 1989, OPERATOR, WINONA WATER SERVICE, TELEPHONE CONVERSATION WITH DEB BARRETT, ECOLOGY AND ENVIRONMENT, RE: WATER SUPPLY INFORMATION.

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
5	U.S.G.S. TOPOGRAPHIC MAPS: WINONA EAST AND WEST, 7.5. MINUTE SERIES, 1972.
6	MINNESOTA TRAVEL AND RECREATION GUIDE, © 1984 ROCKFORD MAP PUBLISHERS, INC.
7	GOSS, ROBERT B., FEBRUARY 4, 1986, MAINTENANCE MANAGER, WATKINS, INC., ANNUAL REPORT FORM FOR GENERATION OF HAZARDOUS WASTE, CALENDAR YEAR 1985.
8	U.S. BUREAU OF THE CENSUS, 1980 CENSUS OF POPULATION, STATE OF MINNESOTA.

SOURCES AND DATES OF INFORMATION COLLECTION

SOURCE	DATE
1) State Hazardous/Solid Waste Files	9-30-87 ↓
2) State Water Files	
3) State Air Files	
4) State Department of Health	
5) State Geological Survey	
6) State Department of Natural Resources	
7) State Fire Marshall	
8) County Department of Health	
9) County Engineer	
10) County Clerk/Recorder of Deeds	
11) City Department of Health	
12) City Engineer	
13) City Fire Department/Fire Marshall	
14) City Water/Sewer Department	10-5-89
15) U.S. Soil Conservation Service	
16) Others	

STATE CONTACT(S): RON SWENSON (name) — (612) 297-1793 (phone number)

(name) — (phone number)